Response to Comments
Revisions to Policy 1-11
July 2012

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- **The following comments are organized in the order that they pertain to sections of Policy 1-11.**
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- **Similar comments have been grouped together with corresponding Ecology responses to the comment or set of comments.**

Comment	Response
GENERAL	
In the future Ecology should solicit input on how the WQ Policy 1-11 has been developed and whether a more rigorous approach such as rulemaking is favored. Although Ecology has solicited comments on the previous and current proposed revisions to the Policy, as a policy it is not subject to the public review requirements and other regulatory controls required for rulemaking. Ecology should consider whether now is the time to convert the Policy into a rule through the formal regulatory process. We understand that this is a time consuming and expensive process and that it will take a considerable effort to make this change. (Boeing)	*Ecology does not agree that program policies should be in rule, and would suggest that it would in fact be a detriment to both Ecology and the public to try to implement the Water Quality Assessment through a rule-making. The water quality standards rule is the basis for Policy 1-11, and provides the regulatory back stop. Ecology uses program policies to guide and direct staff work for our various programs. They establish protocols and provide the needed direction, but also allow flexibility to deal with various situations on a case-specific basis when needed. A rule-making provides certainty but would then lock in those protocols such that flexibility and exceptions would be greatly diminished and in many cases not allowed without further rule-making. Finally (and perhaps most importantly) EPA does not approve our listing policy. They can comment during the public review process, but they cannot dictate how the state conducts its listing methodology for determining impairment. If we were to put Policy 1-11 into rule, it would become a part of the water quality standards under part 5 of the standards, and would then be subject to EPA approval. We do not believe that giving EPA approval authority over our listing policy would be in the best interest of the state.*
On page 5, the middle of the last paragraph, there is a typo. "... daily maximum temperature should be...." (EPA)	*The typo has been corrected.*
The Assessment needs to be clear at the onset – in Introduction and Background – that data and information used for 303(d) listings (category 5) must meet the requirements of WQP Policy 1-11, Chapter 2, Ensuring Credible Data for Water Quality Management. (King)	*Clarifying language has been added.*
One significant failing we explained in comments on the 2008 Assessment, and which continues to the proposed revisions, is Ecology's failure to give full meaning to its water quality standards, including how it plans to assess full support of designated and existing uses. (NWEA)	*Beneficial use support is demonstrated by adherence to the numeric criteria and the anti-degradation policy. The search for the cause of decline of uses is not the main role of the Water Quality Assessment. The Assessment seeks to characterize state waters by the degree to which the quality of the water is contributing to the support of the*

	beneficial uses. To this end, the use of numerical and narrative criteria (defined on page 16 of Policy 1-11) provides the most direct link to the support of beneficial uses and the quality of water that is needed to support those uses. For Category 5 waters, these numeric and narrative criteria also provide the means to implement the next step of the water quality improvement process, TMDLs, in a manner that promotes reasonable use of state resources. For Category 4C waters, other programs are relied on to improve upon the habitat degradation caused by the "pollution" source. For example, Ecology has an active program to address and correct the presence of noxious invasive aquatic weeds in state waters. *Clearly the intention of the statutory requirement that waters be listed on the 303(d)(1) list when effluent limits are not stringent enough to "implement any water quality standard applicable to such waters" is linked to water conditions that are affected by effluent limits. The load and wasteload allocations assigned during a TMDL are based on the presumption that limiting future discharges will allow the water segment to return to a condition where beneficial uses are fully supported. The water segments involving discharge of effluents or pollutants that can be improved through the TMDL process are those that are amenable to reduced pollutant loading as from an effluent source.* *Waters that do not contain populations of endangered species as they may have in the past are not necessarily impaired. The water quality may be sufficient to support a balanced and indigenous population of organisms but other remote factors lead to the decline of the former population. When a water segment is found to exhibit a characteristic linked to a pollutant that is detrimental to the survival of a normal population, such as temperature or other pollutant concentrations, the water will be listed. Detrimental characteristics are established by the applicable criteria of the water quality standards. The pollutant criteria are based on the sensitivity of endangered species and other organisms to the parameter under consideration.*

The Policy fails to address some major parameters such as nutrients (outside of total phosphorus in lakes) which presumably are covered under narrative provisions or beneficial use support in addition to related parameters such as dissolved oxygen. Within the parameter-specific discussions the Policy does not address either beneficial uses or narrative criteria in many instances, sometimes failing entirely to acknowledge their existence. (NWEA)	*We have made clarifications to Policy 1-11 to emphasize that narrative provisions can and should be considered when making listing decisions, where adequate information is available.*
Quite a number of proposed edits include changing "standards" to "criteria" which has the effect of shifting Ecology's assessment even more to evaluating its data against numeric criteria alone. (NWEA)	*Our intent was not to shift data assessment to evaluating data against numeric criteria alone. We reviewed proposed edits and made changes as appropriate to the specific context of the word being used.*
Ecology ignores the requirement to use information when data are not available or to supplement data, despite the clarity of EPA regulations requiring the use of both. (NWEA)	*We have made clarifications to Policy 1-11 to emphasize that narrative provisions can and should be considered when making listing decisions, where adequate information is available.*
On page 3, Ecology proposes to add the word "sampled" in stating that all waters will be placed into one of the five EPA categories. We strongly object to this approach.. At a minimum, Ecology should place such waters into Category 3, "Lack of Sufficient Data" because there is very little difference between no data and inadequate data and because lack of sufficient data describes a situation where there are no data just as much as it describes a situation where there some but not many data. (NWEA)	*All waters are placed into one of the 5 categories even if no sampling data are available. We have removed the word "sampled" and clarified that narrative information can also be used for listing purposes.*
On page 3, Ecology states that waters "showing apparent exceedances of criteria due to documented natural background conditions, and with no significant human contribution" will be listed in Category 1. We disagree that Ecology can do this. The fact that there are natural sources of a pollutant is allowed to change the water quality standard in some situations. Impacts to human health are not among those instances. Therefore, Ecology may not use this Policy to override accepted EPA policies on water quality standards, in effect changing the applicable water quality standards through a Policy that is not subject to EPA action under Section 303(c) of the Clean Water Act. (NWEA)	*Ecology has closely followed EPA's Integrated Report (IR) Guidance when establishing policies for 303(d) listing purposes. In particular, the EPA 2006 IR Guidance* (Regas, 2005) *provided direction to states, acknowledging that "in some cases, a segment may exhibit water quality characteristics or chemical concentrations approaching or exceeding those levels established in the state's water quality standards due solely to non-anthropogenic causes. If the state's water quality standards include a specific exclusion for exceedances caused by "natural conditions", these segments would not be considered impaired (i.e., they could be excluded from Categories 4 and 5). These segments should instead be placed into Categories 1 through 3 as appropriate. For such segments, these background or natural conditions can be defined by assessing the results of water quality monitoring efforts, by the use of predictive models, or a characterization based on data from a watershed with similar hydrologic, land use, and pollutant loading*

	characteristics." (see EPA Guidance, July 2005, page 62). Because Washington does have a natural conditions provision in its standards, we apply it to water quality data where information strongly supports the natural condition. **Regas, D., 2005. *2006 integrated report guidance.* Washington, DC: U.S. Environmental Protection Agency. Available:** http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/2006IRG_index.cfm.
The chart on page 4 below appears to suggest that EPA does not review Ecology's proposed 4(b) determinations. We do not believe this is correct. (NWEA)	*This has been corrected and clarified.*
Ecology states that EPA has authority only to add and remove waters from On page 4, Ecology's list "based on the information available to Ecology during the drafting of the assessment." 40 C.F.R. § 130.7(b)(5). This is incorrect. EPA is not bound by whatever limited or nonexistent efforts made by Ecology to obtain "all existing and readily available water quality-related data and information" as required by EPA regulations. Moreover, if Ecology creates huge lags between its call for data and its publication of a list, EPA is certainly free to use data that Ecology could have obtained during that period of time. This statement should be removed. (NWEA)	*This statement has been removed.* *However, we want to note that in order to create a fair and equitable public process, and to provide Ecology with a formal timeframe by which to assess data, it is necessary to set an end date for accepting data. Data submitted after this date is set aside to be reviewed for the next Assessment.* *New information is being generated continuously on water quality in the state of Washington. As pertinent, significant, peer-reviewed or otherwise qualified data is generated and made available, Ecology staff review and incorporate the information as needed. Data that is gathered in EIM and analyses that are underway are not routinely incorporated into the assessment once the call for data is concluded and data are organized for analyses by location and parameter. Each assessment is based on the body of information available as the analysis of data begins. Exceptions can be made when significant findings emerge.* *Assessments would have a difficult time being completed and subsequently approved by EPA if every new piece of information restarted the assessment process. Since the purpose of the 303(d) list is to generate a list of waters needing TMDLs, a completed list that includes many waters needing TMDLs serves the purpose. New lists are generated periodically in the assessment cycle and delaying approval because of continually emerging information would be counterproductive to the TMDL cycle of restoring water quality.*

	Ecology has in the past, and will continue in the future, to set a firm and formal deadline for new data to be submitted for the current listing cycle. Ecology has made a few minor exceptions to this rule, in circumstances where waterbody improvements have been made that have led to data trends clearly showing that cleaner water is being achieved. *Ecology will also consider information that demonstrates a local loss of beneficial uses. Additionally, Ecology works hard to gather all available data and complete assessments on time. The current 2012 Assessment is compiling data from more than 400 studies from state, federal, tribal and local agencies as well as non-profits and comprises over 4 million records. We did an extensive outreach to gather this information including letters to known data collectors, press releases, listserv announcements, and more. Our effort certainly was not "nonexistent" and the extensive amount of data collected is testimony to that. Additionally, Ecology is working hard to complete assessments on schedule and has put together a new structure for assessing data which should help accomplish this task.*
Policy 1-11 does not appear to contain adequate procedures for the assessment of parameters to determine whether standards have been attained. It is unclear what volume, age, or quality of data are necessary for listing, delisting, or for a change of categories. (Snohomish)	*Policy 1-11 has information throughout the document relating to procedures for accepting and assessing water quality data for listing purposes. Section 4 describes general requirements for submitting data and includes specifics on data age and quality, including requirements for a QAPP. The requirements for submitting data into EIM also involve providing information related to volume, age and quality of the data. The specific parameter sections provide more specific requirements in addition to the general requirement described in Section 4. If you have more specific questions on how an assessment determination was made, or how data you submit will be used, please contact us through the contact information provided at the end of Section 4.*

We encourage Ecology to consistently indicate the source of data used to support listings. Many listings and the associated citations do not clearly indicate the data used to support listings. In many cases the 2008 citations carry forward from 2004 and a complete listing of all data collected and reported for the sample location follows, making a determination of data used nearly impossible. (Snohomish)	*We agree that this was a problem in the past and have worked to make the Water Quality Assessment as transparent as possible. A significant milestone to improve this occurred in 2006 when we made a decision to require that numeric data be submitted to EIM for use in the Water Quality assessment process. These newer listings or reassessed listings now contain EIM location information that links directly to the EIM system where the original dataset(s) can be found. Ecology has and will continue to make older, hard copy data available upon request.*
We have provided some nonsubstantive editorial comments to improve the document. (Stoel)	*Comments noted.*
Suggest that Ecology clarify the language choices to relate monitoring data to Washington water quality standards and use one consistently. (Weyerhaeuser)	*We understand the commenter's request to use consistent language in reference to compliance with water quality standards and have reviewed and edited the document to be more consistent. However, some of the example phrases and terms provided in the comment are effectively different and cannot be used interchangeably. The terms "Standards" and "Criteria" have slightly different definitions in terms of the Clean Water Act and Ecology's intent is to use these terms accurately in the policy.*
Add clarifying language to state that this policy represents the mechanism to determine whether a waterbody attains or complies with WAC 173-201A and WAC 173-204 water quality standards. (Weyerhaeuser)	*We agree and have made suggested edits.*

CALL FOR DATA

Ecology typically evaluates data on a calendar year, but recent data calls have been for only a portion of the most recent year. For example, the most recent marine assessment reviewed data collected up to September 2009. This provides only 9 data points for those sites that are sampled once a month. The data call for streams only went through April 2011. In future data calls, it would make more sense to request data through the end of an assessment period to provide a complete set of the most recent data. For example, if the data will be evaluated based on a calendar year, then the data call should go through December of the most recent year. If the data will be evaluated based on a water year, then the data call should go through September of the most recent year. (Kitsap)	*We agree that setting the call for data deadline such that it corresponds with a calendar year or monitoring season is a good idea. One of our goals is to increase predictability and consistency between assessment cycles and this step will assist in meeting those goals.* *We have added language to the policy to indicate that a call for data will occur from February 1 – April 1 of the assessment year. Data collected on a calendar year will be accepted up through December of the previous year. If a submitter's data should be assessed based on the water year or seasonal condition, data should only be submitted through the end of the defined period, and the submitter should indicate*

	the rationale to assess data by the alternately identified time-period. Data for assessment purposes will then be compiled and assessed in the manner identified.
ASSESSMENT METHODOLOGY	
How will Ecology incorporate anticipated revisions to the Sediment Management Standards and the latest 2008 update into the assessment process described in this section? The use of sediment data and standards applications to support a waterbody segment assessment is controversial and not well described. Sediment-based Category 5 placements are increasing with each new list submittal. Ecology needs to ensure that the assessment approach is supportable in light of the more complex Sediment Management Standards. For example, a single "exceedance" does not translate to non-compliance with the applicable standards. (Boeing)	*When the Sediment Management Standards (SMS) are promulgated the sediment 303(d) process will be modified. The SMS changes will include freshwater chemical and biological criteria; and a process to establish human health standards.* *Once promulgated Ecology will assess sediment conditions for 303(d) purposes using the SMS marine and freshwater chemical and bioassay criteria.*
The current policy recognizes that with current technology collecting continuous monitoring data is not cost effective, and that most data is collected as single sample events. However, it also requires continuous monitoring data to establish some Category 1listings (i.e. for Temperature or Dissolved Oxygen). This is an unrealistic burden for local monitoring programs. At the same time, the policy allows use of single sample data for Category 5 listings. This is internally inconsistent. The assessment policy should require the same level of data to list areas in Category 1 as it does to determine the initial impairment. (Kitsap) Ecology should accept a similar data sufficiency threshold to remove a segment/pollutant combination from the Category 5 list as was used to list the waterbody. This policy choice should be articulated in the Assessment Methodology section. (Weyerhaeuser)	*A Category 1 for a given waterbody and parameter requires enough information to determine that the water body is meeting water quality standards. More data is often required to make a determination that the waterbody is meeting standards because pollution and ambient conditions in a waterbody are rarely constant. Determining that a waterbody is not meeting standards under certain conditions or during a single sampling event often requires much less monitoring to determine a pollution problem exists. Similarly, when a waterbody is again meeting standards it requires more information to ensure that it is meeting standards under all conditions. This is the requirement for Category 1 to determine that the waterbody "meets tested standards".* *A waterbody may be in compliance with standards during specific times of a day, season, or outside of a critical period for a given condition but may not be in compliance at other times. A Category 1 determination needs to be supported by enough evidence to conclude that the waterbody is meeting standards at all times. Pollutants that are highly variable such as bacteria, or other parameters that naturally vary throughout the day and season such as temperature, dissolved oxygen, and pH, require continuous data or a greater sampling effort and an appropriate sample design to show that the waterbody is meeting standards during the critical period typical of that waterbody. Therefore, a greater sampling effort is usually required to provide confidence that the waterbody can be designated as Category 1-meets tested standards.*

The 2002 Policy 1-11 references the statistical analysis method utilized by the State of Florida as a valid approach to minimizing false positive and false negative listings. (Snohomish) The procedures for listing and de-listing do not reference any statistically valid methodology with respect to minimizing false positives, which result in unnecessary TMDL cost, and false negatives, which result in continued environmental degradation. We urge Ecology to evaluate comments sent from Snohomish County on these methods and to conduct a survey as to whether methodology with the same intent has been developed by any other states; and having reviewed all, incorporate commensurate methodology into the state of Washington Water Quality Assessment. (King)	*The 2002 Policy 1-11 did include the use of the binomial distribution method, similar to the State of Florida, in an effort to minimize false positives. This was removed when revisions were made to Policy 1-11 in 2006. Unfortunately, the approach did not work uniformly between different types of parameters and resulted in significant inconsistencies, including results for bacteria. We note that Florida uses the binomial distribution method for certain aquatic life uses, not for recreation use criteria (see Chapter 62-303.320 of the Florida Administrative Code). Furthermore, EPA's guidance states that when the percent threshold of a pollutant is clearly expressed in the water quality criteria (such as the geometric mean and 10 percent exceedance rule for bacteria) then the methodology written in the criteria should be used. (Regas, 2005)* *The binomial distribution approach was removed from Policy 1-11 in 2006 as a valid method for assessing data because of numerous discrepancies that occurred in the 2002-2004 303(d) listing process when applying it. EPA and others supported removal of this methodology from our listing process because the binomial distribution sample requirements were too restrictive, causing waters to not be listed that had a likelihood of being polluted (Type II error – false negative).* *Section 8 of the Policy now includes specific listing methodologies based on the different pollutant parameters. The binomial distribution method is not used for any parameter in the Water Quality Assessment process. However, the ten percent exceedance guidance by EPA for appropriate Aquatic Life Use criteria for conventional parameters is used as well as a requirement for exceedances in multiple years. The latter requirement further reduces the chances of a Type I error (false positive – determining that the waterbody is impaired when it is in fact not impaired).* *Ecology plans to prepare a companion document to the WQ Assessment policy that will discuss the Type I and Type II error analysis. This will be available before the submittal of the 2012 draft list to EPA.* **Regas, D., 2005. *2006 integrated report guidance.* Washington, DC: U.S. Environmental Protection Agency. Available:** http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/2006IRG_index.cfm.

Ecology needs to state the legal basis for discretion to list as requiring a TMDL, with less data than required to demonstrate a water quality standard exceedance as stated in WAC 173-201a. Based on this finding, we recommend that Ecology conduct studies on: • the risk of false positive and false negative listing determinations for each pollutant; • the likelihood of false positive and false negative listing determinations when collecting the minimum number of samples required by WAC 173-201a; and • for all pollutants, to establish statistically-based listing methodology with defined statistical power requirements and risk assessment. (King) Excursion of fewer samples than required by a water quality standard (WQS) does not constitute a violation of the WQS. We believe there should be a public process with respect to sample sets that fall short of actual WQS violations, and whether those may result in category 5 listings, or if they should result in a category 2 ('of concern') listings. (King)	*We do not believe the commenter is correctly interpreting the assessment protocols for Category 5 listings, which provide spatial and temporal considerations when determining an impairment based on water quality standards in WAC 173-201A. The majority of the numeric criteria in the surface water quality standards consist of a "do not exceed" value. One could potentially argue that a legal basis for listing could be made with a single exceedance of these criteria. However, in most cases Ecology's Water Quality Program Policy 1-11, requires greater than the minimum amount of data to provide assurance that the waterbody does not meet standards and should therefore be included in the Category 5 as impaired.* *Ecology assumes that the commenter is referring to the use of single sample temperature data that is applied to the temperature criteria which are based on the 7 day average daily maximum (7DADMax) value. When water quality standards were adopted and then approved by EPA in 2006 which changed temperature from a single "not to exceed" value to the calculated 7DADMax value, Ecology did a comparison of single sample values and 7DADMax values and determined that false negatives from the use of single sample values were rare. That is to say, when 2 or more single sample exceedances (as required by Policy 1-11) exceed the 7DADMax criterion in a given waterbody, contemporaneous continuous temperature data also show an exceedance of the calculated value. This is most often the case because single sample data collection rarely collects the daily maximum temperature of a waterbody therefore single sample values usually fall short of the true maximum temperature of the day which continuous data more accurately provide.*
We recommend that Ecology update WAC 173-201a to include clear definition of sampling methodology, sample size, and sampling period, to be based on defined statistical goals and risk analyses. (King)	*The regulation is not the appropriate place to contain specific information on sampling, given the significant number of parameters, variables, and location differences that can occur. The water quality standards provide general requirements in WAC 173-201A-260(3)(g) and (h) that provide direction to implement criteria that take into consideration the precision and accuracy of the sampling and analytical methods used, as well as existing conditions at the time. The standards also require analytical testing methods must be in accordance with federal and state guidelines. Policy 1-11, Section 4, includes several references that provide specific information*

	appropriate to the water quality parameter being monitored.
Ecology states that "[w]ater and sediment testing should be by an approved method with a quantitation limit that yields reliable results at concentrations that are less than the criterion." This is an absurd statement. There are many toxic pollutants where there is no technology that can achieve a quantitation limit less than criteria. For example, in Oregon where new toxic criteria are based on 175 grams of fish consumption per day, a full 48 percent of the criteria do not have quantitation limits that can achieve this goal. Regardless of Ecology's adoption of new toxic criteria, Ecology has narrative criteria and beneficial use support requirements, both of which would cause this Policy to exclude data that Ecology has no legal or technical basis to exclude. While we agree that testing should be done using the lowest possible quantitation limits, it does not follow that results based on higher quantitation limits are invalid as a matter of policy, in particular because the levels of pollutants detected may be so much higher than the criterion and the quantitation limit as to leave no doubt as to the validity of the results to demonstrate an exceedance. Finally, given changes in methodology that in some cases move swiftly, this policy could result in the rejection of data upon which Ecology needs to rely in order to put subsequent data into context. An example would be the use of EPA Methods 608 and 1668A for PCBs. (NWEA)	*The purpose of the quoted policy statement is specific to determining that a waterbody is meeting standards. The most sensitive laboratory analysis should be used. The section, "Use of Non-detect Samples" on page 19 of Policy 1-11 explains this in more detail.* *Although we cannot speak to policy and rules of the State of Oregon, Ecology is aware that some current laboratory analyses are not able to detect below current Washington criteria. The only limitation that the Water Quality Assessment places on these data is that Ecology requires that the detection limit be below the criterion to determine that a waterbody is meeting the tested standard (Category 1). Laboratory samples that confidently quantify the concentration of a pollutant above the standard are <u>not</u> excluded, in fact they have been used to list many water bodies as "impaired" or "waters of concern". Similarly, analyses that confidently quantify the concentration of a pollutant below the water quality criteria <u>and</u> that demonstrates a detection limit below the criteria are used to make Category 1 determinations.*
The 303(d)/TMDL process is cost and time intensive. The agency should only list on Category 5 if there is definitive proof of a WQS violation and there is a conviction that other Clean Water Act programs cannot be implemented to more efficiently and effectively address the problem. (Weyerhaeuser)	*Section 303(d) of the Clean Water Act is intended to identify waterbody segments that are water quality-limited even when other programs are in place to protect water quality or prevent pollution. We recognize that placing a waterbody segment in Category 5, which then requires a TMDL, can be costly and time intensive. The intent of Policy 1-11 is to provide the program's policies for determining when available credible data and information are sufficient for listing a water segment in one of the five categories. In developing Policy 1-11 Ecology relied on EPA's 2006 Integrated Report Guidance, which includes a chapter on data representativeness and is the most recent guidance provided by EPA on this subject.(see page 33): http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/upload/2006irg-report.pdf. Policy 1-11 provides specific assessment requirements in sub-sections for each of the water quality parameters that are designed to place waterbody segments in the appropriate category based on a sufficient number of data exceedances to indicate impairment or sufficient information to indicate that a designated use is not being supported. Ecology also periodically performs verification studies of*

	303(d) listings to confirm impairment before beginning a TMDL study. These can result in removing a waterbody from the 303(d) list so that TMDL resources can be shifted to waters where they are needed.
Page 20, section on Assessment of Information using Narrative Criteria: does not appear to meet the credible data requirements as described in Chapter 2 of this policy document and RCW 90.48.585 which define credible data. (WDOT)	*The Credible Data Act does not preempt narrative standards from being used in the Water Quality Assessment. Narrative standards are defined in the Water Quality Standards at WAC 173-201A-260(2) with the intent to protect designated uses for fresh and marine water. Narrative standards can be a basis for listing if data and information indicate that designated uses are being impaired. Section 6 of Policy 1-11, "Assessment of Information using Narrative Criteria" requires documentation that leads to the conclusion that designated uses are being impaired. When reviewing documentation of a narrative listing, Ecology uses the credible data policy principles of sound science, and ensures that the measurement of factors follow the same procedures for numeric data that are noted in the credible data policy. Ecology notes that narrative standards are seldom used as the basis to list a waterbody as impaired because of the substantial documentation requirements to indicate that there is an observed loss of designated uses.*
DATA SUBMITTALS	
The inclusion of additional credible data requirements for third party submittals is supported. Ecology will need to ensure that it treats these submittals equitably in applying its discretion to reject or accept. (Boeing)	*Comment noted.*
On page 5-6, regarding EIM and usable data: EPA would like to see more discussion about how Ecology uses the data in EIM to influence decisions about further monitoring in a given waterbody. (EPA)	*The purpose of Policy 1-11 is to describe the assessment methodologies used for meeting Integrated Reporting requirements, and does not go into details about how the EIM database might be used to influence decisions about further monitoring. This happens through other programs at Ecology and elsewhere. We have added a sentence pointing the reader to EIM and how it can be used in decision-making.*

The minimum data requirements for a listing are not sufficient to develop TMDLs. Additional monitoring beyond the minimum required for listing will be required for TMDLs, except where a listing has been developed from a larger credible data set. (King)	*That is correct. Data requirements for a Category 5 listing are designed to indicate that an impairment exists in that location. The Category 5 listing is the indicator that there is a problem, which then triggers the need for a TMDL. The 303(d) listing process is different than the subsequent TMDL process and each have different data requirements. The TMDL study is an in-depth analysis of the pollutant concerns and the extent of the pollution within the watershed, as well as an identification of sources that may be contributing. It requires significantly more data and information to identify the extent and sources within the watershed.*
Page 6: We agree with Ecology's statement that the public can submit water quality data "any any time" as well as during the period of "call for data." However, this should be expanded to include both data *and information* to reflect EPA regulations and Ecology's own water quality standards. In addition, it does little good to have this statement buried in a guidance document if, at a minimum, Ecology's website does not openly invite such submittals on an ongoing basis. (NWEA)	*The Policy has been clarified to note that information will also be accepted at any time.*
Ecology should put into every NPDES permit, 401 certification, and administrative order that sources of pollution or disturbance that are required to collect data on receiving streams are required to submit those data to Ecology at specific times to correspond to the development of the 303(d) list. (NWEA)	*Permit templates have built-in requirements for receiving water studies. NPDES applicants are required to include in their Receiving Water Data Reports electronic copies of the sediment chemical and biological data formatted according to Ecology's EIM System. Grant recipients that have water quality monitoring as part of their funded project must also meet this requirement. Once in EIM, the data are then available for Assessment and 303(d) listing purposes. The data submittal schedule for each of the Clean Water Act processes noted by the commenter are defined separately and often require more frequent data submission than the WQ Assessment process. Because they are different requirements, Ecology does not believe it is appropriate to align data submittal schedules with the Assessment process.*
The requirement that data be submitted to Ecology's Environmental Information Management (EIM) database and have a Quality Assurance Project Plan (QAPP) frustrates ability of the public to meaningfully participate in the water quality assessment. The Clean Water Act requires public participation. Ecology should take a more flexible approach to public submissions. Numeric data that does not conform to the EIM database standards must also be considered. Data that do not have a QAPP must still be evaluated, and their usefulness for water quality assessment can	*The Water Quality Data Act is codified in RCW 90.48.570 through 90.48.590 and requires that Ecology use credible information and literature for determining whether any water of the state is to be placed on or removed from the section 303(d) list. Water Quality Policy 1-11, Chapter 2, describes the need for a QAPP or established protocols in order to ensure that the monitoring data meets minimum quality assurance requirements. These are not requirements that Ecology can*

be weighted according to their credibility—rather than a presumption against use. (CBD)	*disregard. The requirement to use EIM as the repository for numeric water quality data is necessary to meet quality assurance objectives and also makes the assessment of significant datasets (millions of data points) more manageable. Is also allows anyone to independently access the data, creating better transparency in our decisions. We do allow exceptions to the EIM requirement if the submitter has made alternate arrangements with Ecology, or the data are retrieved from other state and federal databases that meet the same level of quality.*
Page 6, section on Public Participation and Submitting Information for the Water Quality Assessment, third paragraph: Please clarify what type of information or rationale must be provided to "show that the data reflect current conditions." Data older than five years may have been representative of the current conditions at that time but may not be representative of the current conditions now. (WDOT)	*This section of the policy has been removed. The intent of this language was to ensure that Ecology obtains the most recent information for listing purposes, but Ecology understands that the evaluation of data age and determining the use of these data in the assessment can be subjective. Ecology will continue as it has in past assessments to use the most recent qualifying data, up to 10 years old, to determine the appropriate category for each listing.*
Page 9, section on General Requirements, bullet J: Meter/instrument calibration information should be a required submission to Ecology for all data submitted in the water quality assessment process, especially data that will lead to a Category 5 listing. In the absence of calibration information, it is impossible to determine if 1) appropriate quality assurance and quality control procedures were followed, 2) the samples or measurements are representative, and 3) sampling and laboratory analysis conform to methods and protocols generally acceptable as required by Chapter 2 of this policy and RCW 90.48.585. (WDOT)	*When data is submitted into EIM, it is the responsibility of the submitter to dictate the level of quality assurance that was followed, which will indicate whether it is eligible for use in the Water Quality Assessment. Submittal of data for use in the Assessment requires that a QAPP or standard protocols be followed. The QAPP typically documents the procedures to ensure the quality of results, whether laboratory analysis, field measurements, or modeling results. Standard laboratory protocols should be cited in the QAPP. The QAPP should require the calibration of instruments and describe other QC practices. A suitable QAPP explains how the final data will be evaluated to meet the objectives of the project. Calibration information that helps to define the accuracy and precision of the data is considered in this evaluation step.*

Page 10, second paragraph: All data considered for inclusion in the water quality assessment process should be required to go through a QA verification process in order to ensure credible data, especially data that will lead to a Category 5 listing. (WDOT)	*We do have a process to ensure credible data while accommodating resource limitations. For data in EIM, we rely on a required internal QA process followed by the data submitter to provide sufficient verification. Data in EIM is assigned a QA implementation level that represents whether data are verified for usability to meet project objectives. Only EIM data that have a Study QA Assessment Level of "3" or higher are used for new listing decisions. For data not in EIM*

	or another acceptable database, a QAPP or similar documentation will be requested as part of an alternate arrangement with Ecology. See the excerpt from the policy: *"Numeric data must be submitted to Ecology's Environmental Information Management (EIM) database to be used for the assessment. Exceptions to this requirement may be made if the data submitter has made alternate arrangements with Ecology, or data are retrieved from other state and federal databases that meet the same level of quality."* *These requirements are the principal reasons why third party data submittals are generally not acceptable for the water quality assessment.*

DATA AGE

The age restrictions for data submittals appear to be in conflict. Data older than 5 years must, in general, meet all current data requirements. However subsequent language in the same section exempts "data submitted for water quality assessments prior to the 2006 water quality assessment." Since pre-2006 data are now "older than 5 years" this exemption should be removed. (Boeing) Page 6. The policy states that data collected more than five years prior to the assessment will be used if more recent data are not available. Data that are more than five years old may not represent current conditions. Listing decisions based on old data could trigger TMDLs that are not really necessary. Pierce County recommends that water bodies where the only excursions were reported more than five years ago be placed in Category 2, "Waters of Concern," and flagged for additional monitoring to determine whether 303(d) listing is truly warranted. This will help reduce the risk of misdirected TMDL efforts. (Pierce) Page 6. The policy indicates that older data may be used in the assessment if the data met the QA requirements in place at the time of collection. In some cases, the historic QA requirements might have been considerably less stringent than current requirements. Use of data with uncertain quality could increase the risk of inaccurate water body assessments and misdirected TMDLs. Therefore, the policy should require an evaluation to confirm that the older data are of sufficient quality	*Ecology agrees that the 5 year data restriction was confusing and appears to be in conflict with age restrictions for data and we have made corrections to remove the conflict. This has been removed from the policy. Data from the last ten years is accepted during the call-for-data period. However, for each parameter specific assessment methodology, data from the most recent year or years is still used to determine category for a given waterbody.* *When the most recent readily available data show that the waterbody is not meeting standards, Ecology cannot dismiss this information. Ecology recognizes that any number of actions to degrade or improve the condition of a waterbody condition may occur at any time. However, the most recent data available is the only information the state has to make an assessment determination.* *Ecology periodically performs verification studies of older listings to confirm impairment before beginning a TMDL study. These can result in removing a waterbody from the 303(d) list. Similarly, EPA requires more recent data or information to remove older 303(d) listings. Data age alone is not sufficient information to remove an impairment determination.*

to use in the assessment. (Pierce) A ten year allowance (page 19) is somewhat inconsistent with the policy choice presented on page 6 which qualifies data at a 5 year age. (Weyerhaeuser) Page 19, fifth paragraph: This paragraph is confusing as it conflicts with the third paragraph on page 6 which states the same restrictions when considering data over five years old. (WDOT) We understand that the Department of Ecology will only be using data 5 years prior to the May 31 2011, data deadline cutoff for the water quality assessment. Can data from prior years be submitted? If so, can that information be used to make informed decisions regarding assessments for individual waters leading up to this years' assessment? (Kalispel)	
WATERBODY SEGMENTS	
It appears that Ecology will be conducting a separate public review of the very important proposal to change to the use of the NHD for segmentation of waterbodies "[t]o promote national consistency in measurement and reporting, EPA recommended that states use the National Hydrography Dataset (NHD) for segmentation of waterbodies." As noted these revisions may significantly revise the status of currently listed segments starting with the freshwater list. Boeing is very interested in working with Ecology and others to make this transition as smooth and consistent with the law as possible. (Boeing)	*The transition to the NHD as a hydrologic basis for listing segments has been anticipated for several years and the technology is now available for application. Basing fresh river and stream segments on a hydrologic basis rather than the current township/range/section delineation makes good sense for many reasons. We are now embarking on the 2012 fresh water Assessment, and will be conducting public workshops as part of this process to provide information and education to the public on what NHD is and how it will affect the Water Quality Assessment segments. Public review and comment on segments will occur when the 2012 Assessment results are publicly reviewed. Ecology welcomes your interest in working with us as we transition to the NHD system.*
We welcome Ecology's change in segmentation. (NWEA)	*Comment noted.*

We would like some more information regarding the segmentation system that is being put into place using the USGS NAD hydrograph layers. For instance, we would like to know that if a portion of a watershed is impaired, whether the downstream potion or upstream potion of a watershed would be considered impaired as well? (Kalispel)	*We are now embarking on the 2012 fresh water Assessment, and will be conducting public workshops as part of this process to provide information and education to the public on what NHD is and how it will affect the Water Quality Assessment segments. Whether a downstream portion of a stream will be considered impaired will depend on the extent of the NHD segment applied. The common delineation between NHD stream segments usually occur at major confluences with other streams. A subsequent TMDL study surveys the entire watershed and further defines how widespread the impairment is (beyond the assesses NHD segment) and also determines what sources are responsible.*
CATEGORY 3	
Page 15: The statement concerning waterbodies with no data appears to be inconsistent with the statement commented on above in which Ecology indicates that were there are no data, Ecology will not place the waterbody segment in a category. Under this description, it appears that Ecology will although it will not show up on the database. NWEA supports this position. (NWEA)	*Comment noted.*
Page 15 and 16, section describing 4a: The timing associated with water body segments being moved from Category 5 to 4a in relation to the TMDL development process is unclear. It would be helpful to include the sentence in the first paragraph on page 22 which states, "Once the TMDL is completed and approved by EPA, all monitored waters in the study area that have a load allocation associated with them are placed in Category 4a." (WDOT)	*We agree. A sentence has been added to the Category 4a section to indicate that Category 5 listings move to Category 4a once the TMDL has been approved by EPA.*

CATEGORY 4B

The proposed revisions to Category 4b "Has an Approved Pollution Control Program" are significant and problematic. Ecology is proposing to add language to the definition of Category 4b to require approval by EPA of an Ecology determination that a segment belongs in this category. EPA has historically been limited to approval of Category 5 "Needs a TMDL". Please explain the regulatory basis for requiring EPA "approval" of pollution control plans used to support a Category 4b decision and how this federal review process would be conducted. These changes appear to give EPA specific authority under the Clean Water Act to approve "other pollution control programs" recognized as the qualified basis for the 4b designation. The proposed Policy suggests that qualified state "pollution control programs" includes such state-only programs such as MTCA cleanups and Habitat Conservation Plans. However, EPA does not have independent Clean Water Act authority to otherwise approve or oversee these programs. (Boeing) It is not at all obvious how Ecology concludes (p. 16) that EPA has jurisdiction to approve or disapprove waterbodies Ecology chooses to place on the Category 4b list. We suggest Ecology is fully capable and best positioned to make this type of decision. (Weyerhaeuser)	*You are correct that EPA takes a formal approval action on Category 5 segments only, as this category constitutes the 303(d) List. However, as part of the 303(d) List approval, EPA looks at all of the other categories to ensure that waters were placed in those categories appropriately and that they do not actually belong in Category 5. Department of Ecology makes the initial decision about placement of a pollution control program into Category 4b, but EPA does review that decision to ensure it follows the federal listing policy for placement into Category 4b. We have edited language in the listing policy under this section to clarify that EPA does not take an approval action on the pollution control program itself that Ecology has determined meets the criteria outlined in the policy. However, EPA does review waterbody segments that are proposed to move from Category 5 to 4b to ensure that the segment will be adequately addressed under the program.*
The Department of Ecology has acknowledged the effectiveness of local pollution control programs in Kitsap County, and supported the development of similar programs in other areas of Washington State. At the same time, there has been resistance to granting category 4B status under 303(d) assessments to water bodies that have pollution control plans. If all the resources put into local pollution control programs for Dyes and Sinclair Inlets, for example, are not sufficient to receive a 4B listing, what more must local jurisdictions do to achieve this? If Ecology supports early implementation of local pollution control programs, and wants to encourage them in other areas, then WQP 1-11 should be revised to provide recognition of these efforts by granting 4B status to streams and marine water during future assessment cycles. (Kitsap)	*Placement into Category 4b is not based on the existence of a pollution control plan. A plan is not enough. Ecology's policy requires that a pollution control program is in place and is being successfully implemented so that a review of the program's progress indicates that water quality standards will be met in a reasonable length of time.*

Once a local pollution control program is in place, a body of water should be listed as 4B for at least 4 years until it can be determined whether the programs have been effective. If the problems are not corrected during that time, the listing can be moved to category 5 during the next assessment. (Kitsap)	*When a water body is placed into Category 4b, the 4b demonstration contains an estimate of when the water is expected to meet standards. We would anticipate leaving the water body in Category 4b for that length of time unless it meets standards sooner or until water quality data indicates that it is not on a trajectory to meet standards, at which time it would be placed back in Category 5.*
We support the changes proposed in the description of Category 4b. However, in the text and the bullets, Ecology proposes to substitute the word "criteria" for "standard" or "standards" and we disagree that this is consistent with the law. This very substitution suggests that Ecology can have no listing based on failure to support designated or existing uses, thereby negating fully applicable aspects of its own water quality standards. If the intent is to keep the focus on the basis or bases for what would otherwise be a Category 5 listing, this can be done while still maintaining policies that are consistent with the law. In addition, the sentence concerning EPA approval of Category 4b placements contradicts the table upon which we commented above, in which Ecology indicates that there is no EPA review of 4b placements. (NWEA)	*We have made edits throughout the document to accurately reflect when we are referring to standards or criteria. We have also clarified in the Category 4b section what role EPA has in accepting or approving the use of this category.*

Ecology should add a paragraph in the Category 4b *Has an Approved Pollution Control Program* discussion to specifically recognize Washington's unique regulatory response to addressing surface water quality protections on state and private forest lands subject to the Department of Natural Resources Forest Practices Rules. The implementation evaluation report titled "2009 Clean Water Act Assurances Review of Washington's Forest Practices Program" substantially responds to each of the programmatic criteria necessary to gain recognition as a Category 4b *Has a Pollution Control Program.* A compelling position exists for Ecology to recognize that the Washington State Forest Practice Habitat Conservation Plan (HCP) approved by the U.S. Fish and Wildlife Service and NOAA fisheries in 2006, combined with Ecology's Clean Water Act Assurances determination in 2009, constitutes sufficient evidence to shift from current Category 5 listing to Category 4b for those impaired water bodies subject to Washington State Forest Practice Act and regulations and the Federal HCP noted above. (Weyerhaeuser) We urge the Department of Ecology to place waters that have been determined to be out of compliance with water quality standards into category 4(b), when those waters are on or flowing through lands where forestry activities are regulated by the Washington Forest Practices Act. Category 4(b) is for waters having a cleanup program already in place. The Washington State Forest Practices Habitat Conservation Plan and state forest practices rules, along with the regulatory processes, adaptive management program, and multi-agency oversight constitute a pollution control program that qualifies as a *pollutions control project* under Department of Ecology rules. (WFPA)	*Ecology has outlined seven criteria in Policy 1-11 that must be met to in order for waterbodies to be placed in Category 4b because they are covered by an approved pollution control program instead of a TMDL. At this time, Ecology disagrees that the existing program, in its current condition, supports assignment to Category 4b based on those seven criteria. In the 2009 Clean Water Act Review of Washington's Forest Practices Program, Ecology concluded "the forest practices and adaptive management programs have not fully met the expectations of research and program performance that underlie the basis for providing the Clean Water Act assurances." But that in spite of its problems, the extensive legal and administrative framework established make it in the best interest of water quality "to work with the other participants to make needed improvements to the existing program". Ecology therefore decided "to conditionally extend the Clean Water Act assurances with the intent to stimulate the needed improvements to the forest practices and adaptive management programs." Those improvements have not yet been made, and most of the corrective milestones have either not been completed or were completed more than a year past due and after substantial participation by Ecology.*
Page 16, section describing 4b: Please explain timing associated with water body segments being moved from Category 5 to 4b in relation to the pollution control program development process. (WDOT)	*Because the pollution control program that qualifies for Category 4b must in essence accomplish the same goal as a TMDL—to get to clean water—the program has to be in place and in the process of being implemented to be considered. Please see the seven elements listed in the Category 4b section that must be met to be considered.*

CATEGORY 4C	
We disagree with EPA's characterization of Category 4c. NWEA believes that the statute is clear that such waters must be placed on the 303(d) list. Likewise, while we believe that as a matter of convenience listing waters with approved TMDLs in a separate list from Category 5 is appropriate, we do not agree that such waters are not "part of the 303(d) list" as stated in the Policy revisions. (NWEA)	*We believe our interpretation of Category 4C is consistent with the EPA guidance on applying the category determinations, which suggested that states use the three subcategories as described under Category 4, and also indicated that Category 4 listings are not considered to be a part of the 303(d) list.*
Page 18: Ecology should not change "standard" to "criteria," here and elsewhere, for the reasons stated. (NWEA)	*Comment noted. We have made edits throughout the document to accurately reflect when we are referring to standards or criteria.*
CATEGORY 5	
Ecology should strive to create measurable criteria for determining whether the human influences are significant or not. The Clean Water Act is a science-based statute, and assessments should be based on scientific criteria rather than best professional judgment. To the extent that the science is inconclusive, Ecology should adopt a precautionary buffer to ensure that water quality is protected. (CBD)	*We agree that it would be preferable to have measurable criteria for determining whether human influences are significant to not. However, we do not believe trying to develop a defined set of measurable criteria would be effective where the lines between natural conditions and human influences are often unclear and cannot be determined without further study. Policy 1-11 includes a section on "Assessment of Information using Narrative Standards" that describes what information, based on science, must be provided to consider an impairment of beneficial uses.*

The proposed addition of waterbodies to Category 5 which currently meet water quality criteria but are not expected to meet water quality criteria within the next listing cycle, creates uncertainty for dischargers and a potentially major burden on Ecology and EPA. This revision appears to violate the requirement to use credible data. It allows Ecology to in effect "override" the sufficiency and adequacy of data required by credible data regulations and replace that process with "trend" information. These segments are more appropriately placed in Category 3 while additional sufficient credible data is collected and assessed. Please explain the regulatory basis for this revision and how it would be implemented. (Boeing) Page 19. The policy states that Ecology may place a water body on the 303(d) list if it is currently meeting was, but credible trend information and data exists to determine that the water body is not expected to meet the WQS by the next assessment cycle. Water quality predictions based on trend analyses and models are often very uncertain and may not be a reliable basis for listing decisions that could result in costly TMDLs. The policy should be revised to clearly describe the criteria Ecology will use to predict future water quality impairments sufficient to support 303(d) listing decisions. (Pierce) Page 19, third paragraph: 1) Please explain what constitutes "credible trend information," and 2) typo in sentence (emphasis added): "A waterbody segment will be placed in Category 5 if it is currently meeting standards, but credible trend information and data exists to determine that the waterbody is not expected not to meet applicable water quality standards by the next assessment cycle." (WDOT) To announce an intention for a prospective Category 5 listing seems OK, but the merit of using a "303(d) Category 5 listing and TMDL development process" to address declining waterbody quality seems questionable. (Weyerhaeuser)	*EPA guidance for the Integrated Report advises states to place waterbody segments into Category 5 if they are currently meeting standards, but credible trend information and data collected indicates that the waterbody is not expected not to meet applicable water quality standards by the next assessment cycle. We have clarified in the policy that in order for any trend information to be considered, it must be collected through a valid statistical methodology developed by USGS. This statistical methodology requires a significant undertaking in order to have credible results. If a project were to endeavor to provide trend information through this methodology, we would be obligated to consider the results. We believe this meets the requirements in the credible data policy.*
Page 19. The policy states that data older than 10 years may be used whenever necessary to determine historical natural conditions. Data that is more than 10 years old may not reflect current conditions, as noted in Comment 2. On the other hand, it may not represent natural conditions either. Please explain how Ecology defines "natural conditions," and how it will use water quality data to represent natural conditions. (Pierce)	*Natural conditions are defined in WAC 173-201A-020 as, "…surface water quality that was present before any human-caused pollution..." Data available, regardless of age, that show that the waterbody does not meet water quality standards criteria prior to human impacts and is due to the natural condition of the waterbody may be compared to current data to support a natural condition determination.*

Page 19, section on Category 5. 303(d) List Impaired by a Pollutant and a TMDL is Needed, second paragraph: "Well-documented narrative evidence of impairment" does not appear to meet the credible data requirements as described in Chapter 2 of this policy document and RCW 90.48.585 which define credible data. (WDOT)	*The Credible Data Act does not preempt narrative standards from being used in the Water Quality Assessment. Narrative standards are defined in the Water Quality Standards at WAC 173-201A-260(2) with the intent to protect designated uses for fresh and marine water. Narrative standards can be a basis for listing if data and information indicate that designated uses are being impaired. Section 6 of Policy 1-11, "Assessment of Information using Narrative Criteria" requires documentation that leads to the conclusion that designated uses are being impaired. When reviewing documentation of a narrative listing, Ecology uses the credible data policy principles of sound science, and checks to see that the measurement of factors follow the same procedures for numeric data that are suggested in the credible data policy.*
OTHER ASSESSMENT CONSIDERATIONS	
The assessment methodology does not specifically address harmful algal blooms, such as those that result in the presence of Microcystin toxins. Ecology's "toxic algae" database indicates that numerous toxic algal blooms occur throughout the state. How does Ecology go about determining whether or not such blooms represent a category 5 impairment? Does Ecology plan to use the Agency Advisory section of the assessment methodology; or the Toxic Substances portion of the assessment methodology? (EPA)	*We do not have numeric criteria to address the presence of toxins that would lead to harmful algal blooms. Narrative standards at WAC 173-201A-260(2) would be utilized to make an impairment determination. Please see the section in Policy 1-11 on "Assessment of Information using Narrative Standards" for a description of how we would consider data and information for listing purposes.*

Ecology's policy should weigh in favor of threatened or impaired listing of coastal waters when data is lacking or uncertain on ocean acidification for several reasons: • First, there is a great time lag between when carbon dioxide is emitted into the atmosphere and when impacts are realized in the ocean. • Second, there is already more CO2 in the pipeline that is going to be absorbed into the ocean. The existing and accelerating rate of carbon dioxide levels in the atmosphere has already committed our oceans and coasts to irreversible acidification. Thus, even if all CO2 emissions were to stop now we would still have declining pH and consequent impacts on biological processes. • Third, by the time that Washington State has observed the adverse impacts and documented pH change in excess of most water quality standards and criteria it will likely be too late to avoid devastating impacts of ocean acidification on biological communities, ecosystems, fisheries, and the communities that depend upon the ocean and coastal resources. (CBD) The best available science tells us that ocean acidification is occurring rapidly and that we need deep and rapid reductions in carbon dioxide emissions to prevent the worst consequences to ocean ecosystems and the economies that depend on them. In sum, Ecology should therefore amend its policy to adopt a precautionary approach to ocean acidification. (CBD)	*The Water Quality Assessment represents the Integrated Report to EPA to comply with requirements in sections 305(b) and 303(d) of the Clean Water Act. EPA produced Integrated Report Guidance in 2006 to assist states in setting policies for conducting the Assessment and listing in the various categories. EPA also issued supplemental guidance on November 15, 2010 to provide information to assist states in preparing and reviewing Integrated Reports related to ocean acidification impacts. This guidance advises states to list waters not meeting water quality standards, including marine water quality criteria, for their 303(d) lists, and that states are further advised to solicit existing and readily available information on ocean acidification using the current 303(d) listing program framework. Ecology has complied with the EPA guidance in its most recent Water Quality Assessment for 2010.* *We do want to note that the state takes the issue of ocean acidification seriously and is proactively working to identify science and data gaps in understanding ocean acidification and what steps the state can take to curb effects from ocean acidification at the regional and local level. To demonstrate the state's commitment, Washington's Governor Gregoire convened a Blue Ribbon Panel (Panel) on Ocean Acidification in February 2012. The Panel, which includes scientific experts, relevant agencies, and stakeholders, is to develop clear, actionable recommendations on understanding, monitoring, adapting, and mitigating ocean acidification in Puget Sound and Washington waters. The Panel results will be delivered in a report to the Governor by October 1, 2012. To get more information on what the department is doing to address climate change, including ocean acidification, go to http://www.ecy.wa.gov/climatechange/index.htm.*

Page 21: This description of natural conditions is an improvement over the more simplistic explanation commented on above. However, it retains the phrase "significant impacts" from human causes as if, in addition to the increment for anthropogenic activities incorporated into two specific numeric criteria the standards have a built-in significance test for human sources where natural sources would or might cause the exceedance alone. Of the utmost importance is that Ecology refrain from making standards changes through the 303(d) listing and assessment process and that where it makes allowable applications of its existing and approved standards and policies that it is extensively documented. (NWEA)	*Comment noted.*
Page 21, section on Other Assessment Considerations, third paragraph: using best professional judgment does not appear to meet the credible data requirements as described in Chapter 2 of this policy document and RCW 90.48.585 which define credible data. (WDOT)	*The credible data policy does not preclude the use of best professional judgment to make listing decisions. Some listing decisions require best professional judgment given the information available. The credible data act and Policy 1-11 provide methods to limit decision-making to empirical data and unambiguous information. The discussion of natural conditions in this section acknowledges the difficulty in ascribing natural conditions to observed concentrations of parameters that are also influenced by human-caused pollutants. Data that represent natural conditions cannot always be available because most locations have been influenced in some way by humans. The method of demonstrating and concluding natural conditions relies on additional EPA guidance, all available historic data and an evaluation of these data based on best professional judgment.*

ASSESSMENT WITHIN A TMDL AREA

On page 17, in the "Assessment of Waterbodies within a TMDL Area" section, the following statement is made: "Data generated during the development of a TMDL should be used for the Assessment. However, Assessment staff need to consult with TMDL staff regarding the adequacy of the dataset to make a category determination. If the dataset is determined to be inadequate, the data will not be used until the next assessment cycle." Please clarify the criteria Ecology will use to determine that data are "inadequate" for assessment purposes. (EPA) In section 7, under Assessment of Water bodies within a TMDL Area, (page 22 of the draft) proposed new language states " ...listing decisions within the TMDL may trump category determinations based on data alone." If the listing decisions are to be based on criteria other than that used to evaluate sampling data, please provide further explanation. (Kitsap) Page 22. The policy notes that listing decisions within the TMDL may trump category determination based on data alone. What criteria will be used to make this determination? (Pierce) Page 22. The policy states that water body segments that meet WQS may still be retained in Category 4a if the segment might contribute to impairment at a downstream location. As noted in Comment 5, this could be construed to mean that the segment cannot be delisted unless it contains *no* detectable concentrations of the pollutant(s) of concern. This policy is counter-productive and should be revised. (Pierce)	*We have provided clarifying language to this new section to be more explicit about what kind of information from the TMDL would be needed to supersede data alone. This is largely TMDL-specific and would depend on what allocations and implementation requirements are required in the TMDL.*
Page 22: We agree with Ecology's description of the applicability of TMDLs to waterbodies both listed and unlisted. It is not entirely clear that this is what Ecology intends to do as it plans to place all of those waters into Category 4a upon EPA approval of the TMDL. It is essential that the data underlying the TMDL be added to the dataset for many reasons among them to ensure that subsequent failure to attain water quality standards may require upstream listing, data focused on certain criteria may be applicable to findings regarding other criteria and overall attainment or failure to attain water quality standards. (NWEA)	*Data collected during a TMDL goes into EIM and is identified as data that relates to the 303(d) list. When Ecology pulls data from EIM, it includes those datasets for consideration in the next Water Quality Assessment. TMDL staff are also asked to review listings to ensure that data has been considered.*

Page 22. The policy lacks defined criteria and protocols for delisting or changing a water body to a Category 1. The policy should contain parallel processes for listing and delisting; processes that specify a discreet number of samples required to demonstrate compliance with standards. Where fewer samples are required to support listing, fewer samples should also be required for delisting. A quantitative protocol would make the process more predictable and equitable. It would improve the ability of municipalities to assess compliance efforts, and to determine annual budgeting, scheduling, and resource allocation. (Pierce)	*Category 1 determinations are defined in the Policy for each parameter that is considered for the Assessment.* *Determining that a waterbody is not meeting standards under certain conditions or during a single sampling event often requires much less monitoring than to determine the extent of the pollution problem. Similarly, when a waterbody is again meeting standards it requires more information to ensure that it is meeting standards under all conditions. This is the requirement for Category 1, which determines that the waterbody "meets tested standards".*

LISTING CHALLENGES

Ecology is proposing to delete language which explains how to request removal or reassessment of a listing. The opportunity to request a reassessment of an existing listing provided the only venue for impacted parties to question Ecology's unilateral application of the Policy to categorize a waterbody. This ability to challenge listing will be particularly important with the proposed change over to the National Hydrography Dataset (NHD) waterbody delineation process. (Boeing) We agree that Ecology should strike the paragraph inviting parties to request reassessment in interim periods. (NWEA) The deleted paragraph in this section should be retained. Interested parties should have the ability to approach Ecology with data-supported regulatory arguments to reassess a listing decision. The agency should be open to additional information/data, or regulatory advocacy, to ensure a listing decision is appropriate. (Weyerhaeuser) Page 23. The policy indicates that Ecology will not consider requests to change listing decisions based on new data or disagreements with Ecology's judgment, until the public comment period for the next assessment cycle. Ecology should be open to receiving the most current data and changing listing status as soon as possible. (Pierce)	*We have reinstated the paragraph after reconsidering the reasons for deleting it, and reaching a decision that it clarifies that reassessment requests can be made and therefore the paragraph should be left in the policy. It is our experience that mistakes or miscalculations can happen, or data are unintentionally omitted, and the opportunity should be afforded to interested parties to question the results and ask for a reassessment of data to ensure that the listing was placed in the correct category. And, as pointed out, the transition to NHD segments could present challenges we have not yet dealt with. As noted in the policy language, any changes that result will become part of the draft report that is submitted to EPA during the next assessment cycle. The actual change to the official Assessment will not occur until it has been reviewed and approved by EPA.*

BACTERIA	
On page 21, it states that listings will not be based on "advisories for marine biotoxins, nor on geoduck bed closures by the state Department of Natural Resources." Please clarify how these advisories differ from Department of Health shellfish advisories, where listing decisions are concerned. (EPA)	*Biotoxins occur naturally and are not impacted by Fecal coliform or Enterococcus levels. Therefore biotoxin advisories should not result in a bacteria listing. Similarly, the geoduck closures made by the Department of Natural Resources are based on lack of resources sufficient for harvesting rather than bacteria levels.*
On page 22, in the last paragraph, there is a typographical error. It says "the following two assessment methods," but three methods follow. (EPA)	*A correction was made to this paragraph.*
On page 23, EPA believes that if any one of the three assessment methods listed results in an exceedance, then a Category 5 listing is appropriate. Please explain why it indicates that exceedances of both the second AND third method are required, rather than exceedances of the first, second OR third method. (EPA)	*If there are too few samples for calculating a geometric mean then the data must fail the percent criterion to be listed as a Category 5. However, there must be more than one sample exceeding the percent criterion to account for natural variation in bacteria levels and ensure a problem exists.*
Specific details in the bacteria section on how Beach Environmental Assessment, Communication, and Health (BEACH) Program monitoring data for *Enterococcus spp* is used for listing purposes. It is difficult to assess the revisions that will result from the proposed changes. The addition of *Enterococcus* sampling for listing purposes will probably result in an increase in Category 5 waterbody segments with associated impacts on all dischargers. Ecology should consult with the potential sources including municipalities and agricultural stakeholders to determine how these sources and others can respond with effective control measures. Ecology should provide an estimate of how both marine and freshwater segments may be impacted. (Boeing)	*All Enterococcus data used in the assessment were collected by local health departments through Ecology's BEACH Program. Because of this collaboration and because Enterococcus data are assessed using a less restrictive secondary standard, very few listings will result from this change. For the listings that will occur, we are currently working with these municipalities. They are aware of the problems and working to resolve them.*
Ecology staff have stated that multiple years worth of data would be required to demonstrate that previous water quality impairments have been corrected. It has also been explained that a single year of data may be adequate after a pollution source in the area has been corrected. However, Section 8a, Category 1 Determination (on page 27 of the draft), states that "A water body segment will be placed in Category 1 when these data show no exceedances beyond the criteria for the most recent data collection year." If there is another provision in the policy which requires additional data beyond one year, or documentation of a source	*We received significant feedback on how bacteria listings move to Category 1 and agree that more guidance is needed. Therefore, we have added additional clarification to the Category 1 section for bacteria that further describes the ability to change from Category 5 to Category 1, and also allows exceptions to meeting Category 1 requirements when a TMDL is being implemented. We have also added a section titled, "Assessment of Waterbodies within a TMDL Area" to clarify how listings can change assessment category within a TMDL*

correction associated with water quality improvement, please provide a reference to the applicable section. This requirement should be made clear in the policy for the benefit of both assessment staff and the public. (Kitsap)	*area.*
New language is proposed for section 8a that will allow Enterococcus data to be used in determining a Category 5 listing, but requires Fecal coliform data to then move it to Category 1. (pages 26-29 of the draft) This is an example of one standard being used to determine an impairment, while requiring a different type of data to change the same listing. To accomplish this, local health jurisdictions would need to sample for both Entero and Fecal coliform data to get the listing removed. This is an unreasonable burden. Enterococcus bacteria are recognized on a national level in assessing human health risks on marine swimming beaches, and they should also be recognized by Washington State as being adequate to determine when recreational uses are not impaired. If necessary, the state water quality standards should be revised to achieve greater consistency with national standards. (Kitsap)	*Currently, Washington only has a secondary water quality standard for Enterococcus bacteria. Listings resulting from Enterococcus data do not meet this secondary standard. We reason that, if the area does not meet the secondary standard, then it does not meet the primary standard as well. However, the primary standard must be met to determine that the waterbody is unimpaired. To do this, the primary standard must be used. Ecology cannot disregard data showing that secondary contact criteria are not being met in primary contact waters. Primary contact waters not meeting these criteria are important to place on the 303(d) list. When the waterbody meets standards, the current associated criteria for primary contact must be used for a determination that the use is being met. Enterococcus data are not necessary for determining compliance with primary contact recreation criteria, therefore additional monitoring by local health jurisdictions is not necessary.* *The suitability of the bacteria indicator is noted. Ecology's recent triennial review process included the need to review bacteria criteria, which is anticipated to occur after EPA provides states with new nationally recommended recreational criteria and implementation guidance. This information is expected in 2013.*
In section 8a, on page 24 of the draft, a portion of the text is marked for removal, including the statement "Bacteria sample values collected to determine localized conditions of a swimming area during peak primary contact recreation are not representative of ambient conditions of the water body segment." During peak use, a swimming beach may be affected by numerous temporary sources of bacteria associated with human swimmers, as well as disturbed sediments. While data from a swimming beach area certainly can determine any impairments to recreational uses at that location, these samples do not adequately represent ambient conditions in a larger area of the water body. The Health District requests that the section quoted above be left in the policy, and further clarification be added explaining appropriate use of swimming beach data to assess impairments of primary contact recreation at that specific location. (Kitsap)	*Language has been added back into this section to specify that under certain circumstances, such as a lake swimming beach, monitoring may not be representative of the ambient conditions of the watervbody. Ecology is also adding a sentence to indicate that further data outside of the active swimming contact period may be required to ensure that other sources are not causing exceedances of the recreational criteria.*

Please see our comments in the attached document from 2008. In addition, requiring a 30-day minimum per year swimming closure is arbitrary. If the closure is from a one-time event, Ecology could ignore say 25 days of closure in a year. If the closures are from on-going sources and water quality problems the fact that a closure is less than 30 days out of the year is not a sufficient basis to conclude that the designated use has been met. It is incorrect to state that no narrative criteria apply to bacteria. (NWEA)	*The portion about narrative criteria has been corrected in the heading of the bacteria methodology. Advisories lasting more than 30 days receive a special classification under the National EPA BEACH Program as "permanent advisories." Because of these permanent advisories, the designated use of swimming is not being met and the waterbody is impaired. Most of these permanent advisories are the result of chronic sewage spills and combined sewage overflows (CSO). Data may not be collected during the event or be available for the water quality assessment, however, the designated use is not being met and the area should be listed as a Category 5.*
Failing to implement statistically valid methods for listing and de-listing to improve confidence in the assessment costs the state and local governments millions of dollars on an annual basis. Without delisting criteria, stakeholders lack the ability to determine if their actions are resulting in changes to the 303(d) list. (Snohomish)	*We received significant feedback on how bacteria listings can be delisted to Category 1 and agree that more guidance is needed. Therefore, we have added additional clarification to the Category 1 section for bacteria that further describes the ability to change from Category 5 to Category 1, and also allows exceptions to meeting Category 1 requirements when a TMDL is being implemented. We have also added a section titled, "Assessment of Waterbodies within a TMDL Area" to clarify how listings can move within a TMDL area.* *Regarding the comment on statistically valid methods, the majority of the criteria are based on a numeric value "not to be exceeded" and does not require an extensive dataset when exceeding values are shown in a dataset which meets QA requirements. Ecology is regularly required by EPA to make 303(d) listing decisions based on available data, which are occasionally small data sets. A central purpose of the Water Quality Assessment is to develop the 303(d) list to determine where further study and cleanup are needed. Ecology also periodically performs verification studies of 303(d) listings to confirm impairment before beginning a TMDL study. These can result in removing a waterbody from the 303(d) list and moves TMDL resources to water where they are needed.*
Clearly state that data evaluated for any listing do not span multiple years or seasons; Currently, a segment may be placed in category 4 when EPA has approved a TMDL. These TMDL studies analyze data across years and seasons, which is in direct conflict with policy 1 ~ 11. (Snohomish)	*Policy 1-11 is intended to provide guidance and direction for assessing ambient monitoring data to determine impairment absent a more detailed study that a TMDL provides. Category 5 listings indicate where clean-up plans, or TMDLs, should be conducted to determine the extent of pollution and sources within the TMDL area. The TMDL*

	study does not need to follow the data analysis procedures described in the policy because the TMDL analysis is much more detailed and site specific. Also see discussion below related to listing methodology versus TMDL development.
Define the "critical period" as the period of highest use for water contact recreation for bacteria. (Snohomish)	*The critical period is a period of time designated in the TMDL or other credible study when the waterbody is most likely to exceed water quality criteria due to climatic and weather related circumstances.*
Define the "local circumstances" which Ecology may use to change ranges of data used for analysis. Stakeholders need to know how additional data are used to determine compliance with standards. (Snohomish)	*We have clarified this section of the policy. Data from a TMDL or similar study can be used to determine the critical period, which includes local information such as climate, weather, and associated bacteria data.*
Data more than 5 years of age should not be used during the assessment. (Snohomish)	*Data from the last ten years is accepted during the call-for-data period. However, for each parameter specific assessment methodology, data from the most recent year or years is still used to determine category for a given waterbody. In the case that data older than 5 years is determined to be a category 5, this data would have resulted in a listing on the 2008 list, the 2006 list, etc. Therefore, these data have usually already been assessed and incorporated into an EPA-approved assessment. The use of older data in the assessment is becoming less frequent due to an increase in regular data reporting and submittals to Ecology's EIM database.*
Document and reference the equations used to analyze data for compliance with the geometric mean and 10% not to exceed criteria. (Snohomish)	*Ecology uses a geometric mean and 10% exceedance of all samples. The time period for which data is considered is stated in the Policy.* *We are happy to provide the tools we use for the technical assessment portion of our bacteria assessment if you would like to assess your data for comparison.*

Describe how non-detects are treated and provide a reference to support decisions. (Snohomish)	*It is appropriate to use non-detect values for assessment purposes when the detection limit is less than the criteria (for example, bacteria). In this case, we can be assured that the non-detect samples are meeting the water quality standard. However, if the detection limit is higher than the criteria, it is not appropriate to use non-detect samples (for example, some toxics). In these situations, a non-detect sample may, or may not meet water quality standards.* *For swimming BEACH Enterococcus bacteria data where non-detects are <10, we found that using 1 or 9 had a significant impact on the final geometric mean. Significant thought was put into how non-detects are analyzed. We consulted with all the coastal states on use of non-detects and worked with our statistician to determine the most unbiased approach. We use a random number between 0 and 9 for calculating the geometric mean.* *For Fecal coliform, where non-detect values are typically <2, a value of 1 is used. This is necessary because zero cannot be used for calculating geometric means.* *We further clarify how we address non-detects for bacteria in the Policy.*
When data used for listing purposes are taken from the Ecology database, Environmental Information Management (ElM), state that quality control data are not evaluated by Ecology. (Snohomish)	*EIM has initial data acceptance protocols that help ensure data quality. We only pulled data with a Study QA Assessment Level of 3 (Data verified and Assessed for Usability) or higher. The data must also have a Study QA Planning Level of 3 (QAPP, SAP, or Equivalent) or higher.*
For those data used for listing purposed and not taken from ElM, indicate the requirements for submittal of quality control data arid describe how it will be evaluated. We recommend· consistency with ElM protocols. (Snohomish)	*Information about the quality assurance of data used in the assessment is provided in the section titled "Public Participation and Submitting Information for the Water Quality Assessment."*
Clarify how field duplicate data, as extracted from ElM, are used during the assessment process. (Snohomish)	*Field replicate sample values pulled from EIM are averaged together if they are marked as field replicates. Additionally, we assume some parameters are replicates if they are collected in the same location within a specified time frame. Bacteria samples are considered field*

	replicates if the samples are collected in the same location within 15 minutes. pH, dissolved oxygen, and temperature samples are considered field replicates if they are collected in the same location within 5 minutes. The resulting calculated value is treated as a single sample. This information was added to the Policy.
Describe the scientific rationale. and probability of committing false positive or false negative listings based upon the 10% not to exceed "raw scores" approach used to evaluate an exceedence of water quality standards. (Snohomish)	*We require at least 2 samples not meeting the percent criterion in order to make a listing. This helps account for potential "false positive" results. We are currently waiting on EPA to revise the national water quality standards and will then make changes to the state standards.*
We recommend the following revisions to policy 1-11 for fecal coliform bacteria delisting: a) Identify the number of samples required for analysis of the geometric mean and comparison to standards. b) Identify which program in Ecology will receive the data during calls for data. c) Document and reference the methods used to analyze data for compliance with the geometric mean and 10% not to exceed criterion. d) Identify the temporal regime of sampling required. e) Define the critical period. f) Identify the maximum age of data allowed for submittal. g) Identify the data quality control requirements and how Ecology will use those in an assessment. h) Describe Ecology's rationale for requiring stakeholders to provide additional anecdotal information to support a change of listing. Identify the methods Ecology will use to rank and evaluate anecdotal information to support a change of listing category. (Snohomish)	*Responses are in order of the comment points:* *a) Policy 1-11 requires a minimum of 5 samples for calculating a geometric mean.* *b) Data submittal procedures for EIM indicate the purpose of a data submittal and one of the choices is for the state Water Quality Assessment. Selecting this choice sends a notification to Water Quality Program staff. Data will then be entered by staff of the Water Quality or Environmental Assessment Program. Both programs use data acceptance protocols to ensure quality of data submitted before final entry into EIM.* *c) Ecology uses a geometric mean and 10% exceedance of all samples. The time period for which data is considered is stated in the Policy. We are happy to provide the tools we use for the our bacteria assessment if you would like to assess your data for comparison.* *d) Stated in Policy 1-11 at the "bacteria" section.* *e) The critical period is a period of time designated in the TMDL study when the waterbody is most likely to exceed water quality criteria due to climatic and weather related circumstances.* *f) Data collected within ten years of the published call-for-data end date for each Assessment will be consolidated and assessed with other data of the same waterbody segment and parameter.* *g) Ecology follows the EPA Quality Management procedures and requires this level or greater for data considered in the Water Quality Assessment. See Policy 1-12 and Ecology's Quality Management plan website at: http://www.ecy.wa.gov/programs/eap/quality.html* *h) This is not a mandatory requirement, however, Ecology reserves*

	the authority to maintain waters on the impaired waterbody list if known pollutant sources continue to impact the designated uses. However in most cases, pollutant sampling data are sufficient. We have added information to explain the process for moving waterbodies to/from impaired categories, including when a TMDL is already in place.
Ecology's TMDL studies for fresh water fecal coliform bacteria analyze data in a manner inconsistent with water quality policy 1-11. Not only are data analyzed across years, for calculation of a geometric mean, but analysis of a 90th percentile is conducted and referred to as the water quality standard. However, the Environmental Assessment group refers to the 90th percentile as the 10% not to exceed standard and uses a "raw scores" approach for analysis. We recommend that Ecology Environmental Assessment and TMDL programs determine a consistent application of analytical methods and reference to standards. The result should be a standardized protocol for analysis of data to support development of fecal coliform bacteria TMDLs. (Snohomish) Page 23. The policy should describe the delisting criteria for segments with fecal coliform TMDL targets that are more stringent than the WQS. Use of the "statistical rollback" method can result in TMDL targets that are well below the was. Thus, it is possible to meet the WQS and still not meet the TMDL. This doesn't make sense. The policy should be revised so that a water body segment will be delisted if monitoring shows that it meets both parts (geomean and 90 percentile) of the fecal coliform was. (Pierce)	*Policy 1-11 is the Water Quality Assessment listing policy and is not used for TMDLs. Analysis of data for the Water Quality Assessment and for a TMDL study varies because these efforts have different goals. In developing a TMDL study, we try to represent the total population by collecting a large amount of data in order to set load reductions (i.e. the 90th percentile). In contrast, for the Water Quality Assessment, we are simply trying to determine if impairment is occurring at any time, so representing the entire population is unnecessary (i.e. 10% not to exceed). It is true that the 90% percentile of a distribution for TMDLs more accurately represents the waterbody than the 10% not to exceed for the Water Quality Assessment.* *For the Water Quality Assessment, we are required by EPA to make listing decisions based on available data, which are occasionally small data sets that do not have a sufficient range to determine the distribution for calculating a 90th percentile. When we are conducting a TMDL, we collect many samples in order to determine the distribution, calculate the 90th percentile and allocate loads. Yes, this is more scientific, as is necessary for assigning load allocations. In summary, the Water Quality Assessment assesses limited datasets to find initial problems and the TMDL study goes into much more detail to define the breadth of the problem and to set reductions and restore the water quality.*
TMDL studies have used the analysis of stream flow inconsistently for determination of seasons upon which analysis is conducted to meet the geometric mean criterion. Neither WAC 173-201A nor policy 1-11 define the critical period or provide stakeholders with methods used to identify the critical period upon which to conduct seasonal analysis. The ambiguity introduces confusion and the use of variable month ranges upon which to conduct seasonal geometric mean analysis. We recommend that Ecology clearly define the critical period used for seasonal analysis. (Snohomish)	*A distinct climatic or critical period will be used if one is identified, however, it is not always known when data is assessed. The policy states that sample data for bacteria will be assessed in 12-month reporting periods unless the critical period has been identified through a TMDL analysis or other credible study. The Water Quality Assessment team will pass this comment on to our TMDL technical coordination team.*

BIOASSESSMENT	
Changes in the bio-assessment section appropriately notify data submitters that after the 2012 assessment, all biological data that is used in the assessment must be collected using the protocols outlined in Ecology's Standard Operating Procedures (SOP) for collecting freshwater macro invertebrates. (Boeing)	*Comment noted.*
Biological assessment is a very important tool for protecting water quality. Ecology should strive to create biological criteria for marine waters. Moreover, where biological assessment information is unavailable in accordance with the Environmental Assessment SOP, Ecology must still consider these information and data. As the field of biological assessment is emerging, data consideration must be more flexible. Ecology is encouraged to create more biological assessment criteria and monitoring for ocean acidification. (CBD)	*The Environmental Assessment Program Standard Operating Procedure (SOP) is intended for Rivers and Stream only and does not apply to marine invertebrate collection. Creating a Marine Invertebrate Collection SOP is something that can perhaps be taken up in the future. At this time, we are not aware of any bioassessment models that have been developed for marine communities. At this time, the bioassessment section of the policy applies only to fresh water rivers and stream invertebrate communities.*
Page 33, section on Category 4 Determination: Please clarify how the "pollutants identified as stressors to the macroinvertebrate community" are determined. Please explain how a TMDL would be initiated based on a Category 5 biological impairment without detailed insight on the pollutant causing the impairment. Are the "stressor pollutants" identified during the TMDL study? (WDOT)	*Listing as a category 5 does not require initially knowing what the pollutant is. Once you have an impairment based on bioassessment information, a stressor ID study must be conducted prior to development of a TMDL. The stressor ID study will determine if there is a pollutant that can be addressed by a TMDL or if we need to come up with some other suggestion for restoration (which would place the listing in Category 4c).*
Page 62, section on Category 5 Determination: As written, impairment determinations may be based on samples that are not representative of overall stream conditions. Clarification should be added to exclude the use of samples that don't represent overall stream conditions (i.e. turbidity of flows into the waterbody, or in areas within the waterbody that are prone to mixing where turbidity may be naturally higher, etc.). (WDOT)	*The Clean Water Act says that in addition to the traditional chemical parameters, we should also look at the biological and physical integrity of the stream. Assessment of the biological communities tells us about the biological integrity. If we find that the community is not healthy, this qualifies as an impairment on its own merit because it demonstrates that designated uses have not been met. There may not be associated water chemistry data with some of the biological data, and while the lack of this information may make the process of stressor ID more difficult, it does not disqualify biological data from being considered.*

CONTAMINATED SEDIMENTS	
It is incorrect to say that no narrative criteria apply to contaminated sediments. *See, e.g.*, WAC 173-201A-260(2)(a) ("Toxic, radioactive, or deleterious material concentrations must be below those which have the potential, either singularly or cumulatively, to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health[.]") (NWEA)	*The rule cited in the comment is from the surface water quality standards and applies to water column criteria. It is true that the Sediment Management Standards (SMS) have narrative standards. WAC 173-204-100(3) defines a narrative standard or goal for the sediment quality regulation and management as no adverse effects, including no acute or chronic adverse effects on biological resources and no significant health risk to humans. This has been cited in the revised policy.*
DISSOLVED OXYGEN	
Ecology is mistaken in stating that there are no narrative criteria applicable to dissolved oxygen ("DO"). For example, Ecology's water quality standards include the requirement that "all indigenous fish and nonfish aquatic species be protected in waters of the state in addition to the key species described below." WAC 173-201A-200(1). Likewise, "deleterious material concentrations must be below those which have the potential, either singularly or cumulatively, to adversely affect characteristic water uses, cause acute or chronic conditions to the most sensitive biota dependent upon those waters, or adversely affect public health[.]" WAC 173-201A-260(2)(a). (NWEA)	*WAC citations have been added to the policy at the parameter-specific descriptions*.
We agree with Ecology's insertion of the word "typically" in discussing the critical season. This might be an appropriate location for Ecology to mention some atypical circumstances. (NWEA)	*Clarifying language has been added to this section.*
pH	
We support modifications to the pH section, which now more closely resemble requirements for other conventional parameters. (Boeing)	*Comment noted.*

We disagree that there are no narrative criteria that apply to the parameter pH. See comments regarding DO. (NWEA)	*WAC citations have been added to the policy at the parameter-specific descriptions.*
As with DO, it would be helpful for Ecology to note some of the atypical circumstances that lead to excursions of criteria outside the critical season. (NWEA)	*The methodology for assessing pH data has been rewritten and, where appropriate, now reflects similar language to the dissolved oxygen methodology.*
Ecology's revision to the draft Policy that specifically seeks to deal with studies regarding ocean acidification is unwarranted. It appears that Ecology has included this paragraph specifically to frustrate the Center's attempts to bring Ecology's attention to the important issue of ocean acidification.(CBD)	*It was not our intention to frustrate the commenter. After reconsidering we agree that highlighting ocean acidification in this section is unnecessary and it has been deleted.*
With regard to water quality assessments for ocean acidification, the absence of site specific monitoring should not obviate the need to list ocean waters as threatened or impaired, rather it demonstrates a need for additional coastal monitoring. Recognizing the limited monitoring data available, states must consider a more expansive versus cautious approach to monitoring data (EPA 2006 Guidance). Site-specific monitoring data is not required for impaired water listing. Washington, therefore, must take into account not only site-specific monitoring, but also studies of offshore monitoring, predictive modeling, knowledge about atmospheric carbon dioxide levels and rates of increase, as well as laboratory studies on the impacts of ocean acidification on organisms to identify threatened and impaired waters. (CBD)	*Washington State law (Water Quality Data Act codified in RCW 90.48.570 through 90.48.590) requires Ecology to use credible data to determine whether any water of the state is to be placed on or removed from any section 303(d) list and whether any surface water of the state is supporting its designated use or other classification. See: http://www.ecy.wa.gov/programs/wq/qa/wqp01-11-ch2_final090506.pdf.* *Data are considered credible data if:* • *Appropriate quality assurance and quality control procedures were followed and documented in collecting and analyzing water quality samples;* • *The samples or measurements are representative of water quality conditions at the time the data were collected;* • *The data consist of an adequate number of samples based on the objectives of the sampling, the nature of the water in question, and the parameters being analyzed; and* • *Sampling and laboratory analysis conform to methods and protocols generally acceptable in the scientific community as appropriate for use in assessing the condition of the water.*

Washington can make a presumption that a pollutant source from atmospheric deposition is uniformly affecting water segments in large geographic areas (Environmental Protection Agency 2010). The best available scientific information on ocean acidification can and must inform the development of 303(d) lists, even if site-specific measurements are not available. (CBD)	*We agree that placing larger geographic areas into assessment categories is appropriate when the evidence is part of a focused study that meets credible data objectives for placing segments in the Assessment. In this case, it would likely occur based on narrative standards.*
TEMPERATURE	
We would like some direction when it comes to utilizing time series data in 30 minute intervals. I have searched the literature that exists in Ecology publications and can find no evidence that 30 minute intervals should be utilized over sixty minute intervals. Also, we understand that if data submitters can prove that they have quality assurance plans in place and data that passes some criteria threshold, that hourly measurements can in fact be used for TMDL/Level 5 impairment inclusion? (Kalispel) What method or data formatting would the Department of Ecology prefer to assess temperature? It seems as though the department would be testing data sets both by charting 7DADMax temperatures but also by scrutinizing unsummarized raw data as well? Can we receive clarification of testing methods and preferred method/format of data submittal? (Kalispel)	*See Standard Operating Procedures document for Continuous Temperature Monitoring of Fresh Water Rivers and Streams, EAP080 at the following Ecology website.* *http://www.ecy.wa.gov/programs/eap/quality.html.* *The minimum interval for collecting continuous temperature data is 30 minutes. One-hour intervals do not provide enough resolution to obtain the maximum daily value in many streams that exhibit wide-ranging diurnal temperature regimes. The maximum value of the day can be omitted from the dataset if the intervals are set too far apart. Intervals too far apart can cause a low bias when calculating the 7- day average daily maximum (7-DADMax).* *The Quality Assurance Project Plan should include procedures for ensuring the quality of continuous temperature loggers, including initial calibration, QC checks, and data review once the instrument is downloaded to ensure that the temperatures reflect ambient water temperature (rather than air temperature for example). Daily maximum, minimums and calculated daily means can be submitted to the Environmental Information Management (EIM) system. Ecology calculates the 7-DADMax from these data for the assessment.*
TOXIC SUBSTANCES	
Boeing supports the clarifications to the toxics criteria section, including new descriptions for arsenic and endosulfans. (Boeing)	*We appreciate the support.*

On page 42, EPA would like further explanation of the Natural Condition evaluation referenced in the arsenic assessment policy. (EPA)	*Upon further review of this proposed addition, we realize that this is not appropriate in the specific parameter descriptions, and we have removed the draft language that refers to the need for a natural conditions determination prior to making an arsenic listing in Puget Sound. We do want to note that Policy 1-11 includes a description of how natural conditions calls will be made (see Section 7, Other Assessment Considerations).*
Ecology should not conclude that an instantaneous parameter concentration has any compelling relationship to a chronic water quality criterion (typically a "A 4-day average concentration not to be exceeded more than once every three years on the average"). To assume otherwise is bad science and is a truly bad policy choice. At most, discrete and perhaps isolated instantaneous parameter concentrations should encourage placement of a waterbody on the Category 2 *Waters of Concern* or Category 3 *Lack of Sufficient Data*, which would then encourage a more rigorous data collection effort to properly categorize a waterbody segment. (Weyerhaeuser) As written in the Assessment, listings seem to be possible in at least some cases with data that cannot be considered credible with respect to representativeness including but not limited to sampling methodology and sample size. A clear example of this is seen under: 6. Assessment Methodology: allowing use of an instantaneous excursion either of the WQ criteria for metals. In the absence of a body of scientific work indicating the probability and uncertainty around a single grab-sample value representing an average, especially a four-day average (chronic), the stated assumption will lead to listings where there is no prima facie demonstrated exceedance of the WQ standard. We recognize that fully meeting these criteria would require no less then some *multiple* of three years of monitoring, multiple times per year, and that for cost reasons this is as unrealistic for de-listing as it would be for listing. However, it is not unreasonable to make a requirement that any single excursion must be followed up by no less than at least one if not more, additional confirming measurements before listing. (King) Clearly there is a question of reconciling less data than required by WAC 173-201a to demonstrate that a water quality standard has been exceeded or is being met, within the context of the realities of available monitoring resources. Ecology needs to state the legal basis for that discretion. (King) We recommend that Ecology undertake a study of representativeness, including but	*Washington Water Quality Standards provide defined magnitude and durations for each aquatic life use toxic parameter listed in WAC 173-201A-240. Additionally, U.S.EPA guidelines, (U.S. EPA, 2005) specify the frequency of allowable exceedances of these criteria as no more than once in a three year period. This frequency threshold is very different from other aquatic life use conventional pollutants whose criteria thresholds are designed to protect not only survival but full protection of the development and propagation of aquatic life. These criteria often include (through rule or assessment methodology) a percent allowable exceedance before a waterbody is determined impaired. However, the development of aquatic life use toxic criteria are based on lethal concentration evaluations and are therefore expressed as a* ***do not exceed*** *value. The exceedance frequency is based on an estimated period of time for sensitive aquatic organism to recover from these lethal concentration events.* *These aquatic life use toxic criteria and frequency guidance are the basis of the WQ Assessment methodology for aquatic life use water column toxic criteria. Ecology requires greater than on exceedance in a three year period to determine that the waterbody is impaired. This methodology is consistent with other states' methodologies as it is based on federal recommended criteria and guidance provided to the states.* *Ecology recognizes its responsibility to provide further analysis for the specific use of single sample values in comparison to the chronic aquatic life use toxic criteria that are expressed as a 4-day average. Ecology has performed preliminary analyses to determine whether single sample exceedances can accurately determine whether a waterbody in fact exceeds the chronic criterion more than once in a*

not limited to sampling methodology and sample size, for metals with respect to use of data short of that required by water quality criteria as given in WAC 173-201a, and apply that that to the Assessment (see comment 3 with regard to Snohomish County recommendations on assessment methodology). In the interim, we recommend for metals: • For the acute criteria, confirmation by no fewer than three grab samples spread out over an hour • For the chronic criteria, confirmation by no less than four grabs collected one each day on four consecutive days. • In either case, all samples collected during the averaging period must be included in the average. (King)	*three year-period. This analysis was performed using methods in the technical support document for developing permit limits (U.S. EPA, 2005) and demonstrated that the currently methodology is supported.* *Ecology plans to prepare a companion document to the WQ Assessment policy which will provide a more complete analysis of the use of single sample values to determine impairment based on the chronic aquatic life use water column criteria. This will be available before the submittal of the 2012 draft list to EPA.* **U.S. EPA. 1985. *Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses*. NTIS PB85-227049**
Ecology should also investigate leading-edge technologies for monitoring metals continuously in-situ. (King)	*Comment noted. Ecology has looked into using semi-permeable membrane devices for monitoring metals and other toxics.*
Ecology's proposed additions appear to place the burden for obtaining data and site specific information on other agencies rather than on Ecology itself. This is an incorrect reading of the burden EPA's regulations place on Ecology. If Ecology has reason to believe that such data and information exist, Ecology must seek them not wait passively to see if they are provided. (NWEA)	*Ecology actively solicits data from other agencies, governing entities, tribes, and the public by providing notice of opportunities to submit data. We work closely with data submitters who are submitting data into EIM and we access data from federal databases (such as National Watershed Inventory System and National AQWA) where directly available. We also do extensive outreach to gather information including letters to known data collectors, press releases, listserv announcements, and more. The current 2012 Assessment is compiling data from more than 400 studies from state, federal, tribal and local agencies as well as non-profits and comprises over 4 million records. We believe these efforts adequately cover the state's obligation to use all readily available data.*

Ecology misconstrues the role of its narrative criteria because it limits its analysis of data to application of the numeric criteria, including the National Toxics Rule ("NTR") for human health concerns. In other words it seems to not understand the role of narrative criteria to *supplement* existing numeric criteria to ensure full protection of existing and designated uses. There is no reference, for example, to the evaluation of cumulative impacts in the Policy and there is no legal rationale for Ecology to ignore this clear aspect of its own water quality standards. (NWEA)	*At present the chemical criteria are applied on an individual basis. The approach you recommend could be a topic of future discussion during the upcoming water quality standards "implementation tools" rulemaking, which is scheduled to begin this fall.*
In the matter of narrative criteria *supplanting* numeric criteria, Ecology is incorrect that it may make a "Natural Conditions evaluation" for arsenic based on presumed natural elevations. EPA policy precludes natural conditions overrides of criteria for the protection of human health. Moreover, Ecology does not have human health criteria for toxics and the NTR does not include a "Natural Conditions evaluation" of which Washington can avail itself. (NWEA)	*Ecology is removing the draft language that refers to the need for a natural conditions determination prior to making an arsenic listing in Puget Sound.*